

IN THE CLAIMS

1. (Currently Amended) A portable golf round data system comprising:
  - (a) a radiolocation receiver to receive at least one external locating signal from which a user's current location on a golf course can be determined;
  - (b) data storage in a data collection unit for storing golf course data relating to locations of one or more golf course features;
  - (c) at least one microprocessor in said data collection unit operatively connected to said radiolocation receiver and to said data storage, said microprocessor programmed to:
    - 1) determine said user's current location on said golf course from said external locating signal; and
    - 2) dynamically generate a graphical view of a selected portion of said golf course based on said user's current location and said golf course data, said dynamically generated view including a selected portion of the golf course ~~between the user's current position and the cup for the hole currently being played and a visual indication representing the probable landing area of the golf ball as a result of the next stroke~~; and
  - (d) a graphic display to display said graphical view of said selected portion of said golf course.
2. (Previously Amended) The system of Claim 1 wherein said course data is transferred to said data collection unit via a wireless communication link.

3. (Original) The portable golf round data system of Claim 2 wherein the wireless communication link is a cellular telephone data channel.
4. (Previously Amended) The system of Claim 1 wherein said course data is transferred to said data collection unit by a connection to a data processor external to said data collection unit.
5. (Previously Amended) The system of Claim 1 wherein said course data is transferred to said data collection unit from a data file accessible via the Internet.
6. (Previously Amended) The system of Claim 1 wherein said course data is transferred to said data collection unit by installing removable data memory media to said data collection unit.
7. (Previously Amended) The golf round data system of claim 1 wherein said dynamically generated view is from the current location of the user.
8. (Canceled)
9. (Previously Amended) The system of Claim 1 wherein said data storage further contains data relating to a predetermined skill level.
10. (Previously Amended) The portable golf round data system of Claim 9 wherein said predetermined skill level is based upon the user's past performance skill level.

11. (Canceled)

12. (Original) The portable golf round data system of Claim 1 wherein said graphic display is adapted to show the time remaining to complete some selected portion of a golf round.

13. (Original) The portable golf round data system of Claim 1 wherein said graphic display is adapted to show the number of the hole currently being played.

14. (Original) The portable golf round data system of Claim 1 further including a stroke register to register each stroke taken by a user.

15. (Original) The portable golf round data system of Claim 14 further including stroke data storage for storing location data for each stroke taken until said data can be subsequently retrieved for further analysis or long term storage.

16. (Previously Amended) The system of Claim 14 wherein said graphic display is adapted to show the number of strokes said user has used on the current hole being played.

17. (Original) The portable golf round data system of Claim 14 wherein said graphic display is adapted to show a score card with the number of strokes used on each hole completed and the total used on the round.

18. (Previously Amended) The portable golf round data system of Claim 15 wherein said graphic display is adapted to show the location of at least one selected previous stroke in said stroke data storage and the resulting ball position after said stroke.

19. (Original) The portable golf round data system of Claim 14 wherein said stroke register includes a manually actuated switch contact.

20. (Previously Amended) The system of Claim 14 wherein said microprocessor is further adapted for voice recognition of at least one selected word.

21. (Previously Amended) The system of Claim 1 wherein said microprocessor is further adapted to receive and recognize telemetry signals emitted by telemetry equipped golf clubs.

22. (Original) The portable golf round data system of Claim 21 wherein said telemetry signals include sounds emitted by a telemetry equipped club when a stroke is taken with said club.

23. (Original) The portable golf round data system of Claim 21 wherein said telemetry signals include radio signals emitted by a telemetry equipped club when a stroke is taken with said club.

24. (Previously Amended) The system of Claim 15 wherein said location data is transferred from said data collection unit to a data processor external to said data collection unit.

25. (Previously Amended) The system of Claim 15 wherein said location data is transferred from said data collection unit to a data file accessible via the Internet.

26. (Previously Amended) The system of Claim 15 wherein said location data is transferred from the said data collection unit via a wireless communication link.

27. (Original) The portable golf round data system of Claim 26 wherein the wireless communication link is a cellular telephone data channel.

28. (Canceled)

29. (Previously Amended) The system of Claim 24 wherein said data processor includes means for generating a golf course plot with the location of all recorded strokes.

30. (Original) The portable golf round data system of Claim 24 wherein said data processor further includes means for printing commemorative certificates for predetermined events.

31. (Canceled)

32. (Currently Amended) A cellular radiotelephone comprising:

- (a) a cellular radio transceiver to communicate with a cellular network;
- (b) a radiolocation receiver for receiving at least one external locating signal from which a user's current location on a golf course can be determined;

- (c) data storage operatively connected to said cellular radio transceiver for storing golf course data relating to the location of-at least one golf course feature, wherein at least a portion of said golf course data relating to the location of said at least one golf course feature is received via said cellular network from said cellular radio transceiver;
- (d) a processor to perform calculations using said user's current location and the location of at least one golf course feature based on said user's current location and said stored golf course data to dynamically generate location dependent course information a graphic representation of a selected portion of the golf course including a visual representation of the probable landing area of the golf ball due to the next stoke; and
- (e) a display to display said location dependent course information graphic representation.

33. (Previously Amended) The cellular radiotelephone of Claim 32 wherein said display is adapted to show the club the user intends to use for the next stroke.

34. (Previously Amended) The cellular radiotelephone of Claim 32 wherein said data storage further contains data relating to said user's past performance.

35. (Original) The cellular radiotelephone of Claim 32 wherein said display is adapted to show the time remaining to complete some selected portion of a golf round.

36. (Original) The cellular radiotelephone of Claim 32 wherein said display is adapted to show the number of the hole currently being played.

37. (Original) The cellular radiotelephone of Claim 32 further including a stroke register to register each stroke taken by a user.

38. (Original) The cellular radiotelephone of Claim 37 further including stroke data storage for storing location data for each stroke taken until said data can be subsequently retrieved for further analysis or long term storage.

39. (Previously Amended) The cellular radiotelephone of Claim 32 wherein said display is adapted to show the number of strokes a user has used on the current hole being played.

40. (Original) The cellular radiotelephone of Claim 37 wherein said stroke register includes a manually actuated switch contact.

41. (Previously Amended) The cellular radiotelephone of Claim 37 wherein said data processor is further adapted for voice recognition of at least one selected word.

42. (Previously Amended) The cellular radiotelephone of Claim 32 wherein said data processor is further adapted to receive and recognize telemetry signals emitted by telemetry equipped golf clubs.

43. (Original) The cellular radiotelephone of Claim 42 wherein said telemetry signals include sounds emitted by a telemetry equipped club when a stroke is taken with said club.

44. (Original) The cellular radiotelephone of Claim 42 wherein said telemetry signals include radio signals emitted by a telemetry equipped club when a stroke is taken with said club.

45. (Previously Amended) The cellular radiotelephone of Claim 38 wherein said stroke data is transferred from the said cellular radiotelephone to a remote computer via a cellular telephone data channel.

46. (Previously Amended) The cellular radiotelephone of Claim 38 wherein said stroke data is transferred from said cellular radiotelephone to a data processor external to said cellular radiotelephone.

47. (Previously Amended) The cellular radiotelephone of Claim 38 wherein said stroke data is transferred from said cellular radiotelephone to a data file accessible via the Internet.

48. (Original) The cellular radiotelephone of Claim 46 wherein said data processor further includes means for generating a golf course plot with the location of all recorded strokes.

49. (Original) The cellular radiotelephone of Claim 46 wherein said data processor further includes means for printing commemorative certificates for specified events.

50. (Previously Amended) The cellular radiotelephone of Claim 32 wherein said display is adapted to show a user the probable distance a ball will travel when struck by a selected club.

51. (Previously Amended) The cellular radiotelephone of Claim 32 wherein said display gives a visual indication of the amount and direction that the golf ball will break on the next putt.

52. (Withdrawn) A telemetry equipped golf club comprising:

- (a) a golf club; and
- (b) an emitter adapted to emit a signal that identifies said golf club from other golf clubs.

53. (Withdrawn) The telemetry equipped golf club of Claim 52 wherein said transmitter is adapted to emit a second signal when said club strikes a golf ball.

54. (Withdrawn) The telemetry equipped golf club of Claim 52 wherein said signal is acoustic.

55. (Withdrawn) The telemetry equipped golf club of Claim 52 wherein said signal is electromagnetic radiation.

56. (Withdrawn) The telemetry equipped golf club of Claim 53 wherein said second signal is acoustic.

57. (Withdrawn) The telemetry equipped golf club of Claim 53 wherein said second signal is electromagnetic radiation.

58. (Withdrawn) The telemetry equipped golf club of Claim 54 wherein said transmitter consists at least one cavity in said club with said cavity configured to emit a sound when said club is swung to make a stroke.

59. (Withdrawn) A golf round data system comprising:

(a) data storage for recording strokes taken by the user; and  
(b) a stroke detection module to detect strokes taken by a user without direct user input and to identify the golf club used to take each said stroke based on a signal emitted by said golf club.

60. (Withdrawn) The golf round data system of Claim 59 wherein said detection module is adapted to receive acoustic signals.

61. (Withdrawn) The golf round data system of Claim 59 wherein said detection module is adapted to receive electromagnetic signals.

62. (Withdrawn) A golf user aid method comprising:

(a) storing information relating to the likely travel of a ball resulting from a stroke using at least one selected club;  
(b) determining the user's location on a golf course; and  
(c) indicating to the user information relating to the likely path of the ball due to the next stroke using the selected club.

63. (Withdrawn) The golf round data method of Claim 62 wherein said information to the user includes the likely distance to be achieved by a stroke which is not a putt.

64. (Withdrawn) The golf round data method of Claim 62 wherein said information to the user includes the likely break of a putt away from a straight line from the user's present position on a green and the cup in said green.

65. (Withdrawn) A golf data display comprising:

(a) a locator which determines the user's current location on a golf course;

(b) data storage retaining the expected ball travel distance to be achieved by at least one selected club; and

(c) at least one indicator to show information relating to the likely path of the ball due to the next stroke using the selected club.

66. (Withdrawn) The golf data display of Claim 65 wherein said data display is portable to be carried by the user.

67. (Withdrawn) The golf data display of Claim 65 wherein said locator is a radiolocation receiver adapted to receive at least one external locating signal from which the user's current location on a golf course can be determined.

68. (Withdrawn) The golf data display of Claim 65 wherein said selected club is determined using one or more key switches and an indicator showing said user the particular club selected.

69. (Withdrawn) The golf data display of Claim 65 wherein said selected club is determined using a telemetry receiver adapted to recognize which specific club a user is manipulating in some predetermined manner.

70. (Withdrawn) The golf data display of Claim 65 wherein said likely path of the ball is determined from the past performance of said user.

71. (Withdrawn) The golf data display of Claim 65 wherein said indicator is a graphical display adapted to show at least one course feature and an indicated course region within which the user's ball will be expected to lie following a stroke with said selected club.

72. (Withdrawn) The golf data display of Claim 71 wherein said graphical display is further adapted to allow the user to indicate the intended direction of said next stroke.

73. (Withdrawn) A golf putting aid comprising:

- (a) a locator which determines the user's current location on a golf course;
- (b) data storage retaining information from which the break of a putted ball from a straight line from the current lie on a green to the cup of that green can be estimated; and
- (c) at least one indicator conveying to the user expected approximate break distance and direction of a putted ball from a straight line between said user's current location and said cup.

74. (Withdrawn) The golf putting aid of Claim 73 wherein said locator is a radiolocation receiver adapted to receive at least one external locating signal from which the user's current location on a golf course can be determined.

75. (Withdrawn) The golf putting aid of Claim 73 wherein said information retained in data storage includes a number of break distances and directions determined from a series of test puts to the current cup location from multiple sample locations on the green.

76. (Withdrawn) The golf putting aid of Claim 73 wherein said information retained in data storage includes green elevation contours and the current cup location.

77. (Withdrawn) The golf putting aid of Claim 73 wherein said indicator includes an alpha numeric display of estimated break distance and direction.

78. (Withdrawn) The golf putting aid of Claim 73 wherein said indicator includes graphical display of green elevation contours to be traversed from the current ball position on the green to the cup.

79. (Withdrawn) The golf putting aid of Claim 73 wherein said indicator includes a graphical display of forces to be exerted on said putted ball by green contours.

80. (Withdrawn) The golf putting aid of Claim 73 wherein said indicator includes an audible voice.

81. (Previously Added) The cellular radiotelephone of Claim 32 wherein said data processor is external to said cellular radiotelephone and said data processor is operatively connected to said cellular radiotelephone through wireless data transfer.

82. (Previously Added) The cellular radiotelephone of Claim 32 wherein at least a portion of said data storage is external to said cellular radiotelephone.

83. (Canceled)

84. (Canceled)

85. (Previously Added) The cellular radiotelephone of Claim 32 wherein a user's data is uploaded via said cellular network and said cellular radio transceiver.

86. (Previously Added) The system of Claim 1 wherein said graphical view includes a plurality of said golf course features of said golf course.

87. (Previously Added) The golf round data system of claim 1 wherein said graphical view includes an indication of the user's current location.

88. (Currently Amended) The cellular radiotelephone of claim 32 wherein the ~~location dependent course information comprises~~ display shows the distance from the user's current location to the green.

89. (Canceled)

90. (Canceled)

91. (Previously Added and Currently Amended) The cellular radiotelephone of claim 89  
32 wherein the graphic representation includes at least a portion of the green.

92. (Canceled)

93. (Previously Amended) The golf round data system of claim 1 wherein said  
dynamically generated view is from the vantage point of the user.

94. (Canceled)

95. (Previously Added and Currently Amended) The golf round data system of claim 90  
32 wherein the visual indication of the probable landing area is a closed geometric figure  
encompassing an area in which a defined percentage of shots is likely to land.

96. (Previously added and Currently Amended) The golf round data system of claim 28 1  
wherein the visual indication of the probable landing area is a closed geometric figure  
encompassing an area in which a defined percentage of shots is likely to land.

97. (New claim) A portable golf round data system comprising:

- (a) a radiolocation receiver to receive at least one external locating signal from  
which a user's current location on a golf course can be determined;

- (b) data storage in a data collection unit for storing course data relating to locations of one or more golf course features;
- (c) at least one microprocessor in said data collection unit operatively connected to said radiolocation receiver and to said data storage, said microprocessor programmed to:
  - 1) determine said user's current location on a green of said golf course from said external locating signal; and
  - 2) dynamically generate a graphical view of a selected portion of said green including the user's current position on the green, the cup on the green, and a representation of the forces on a ball along a line between the user's current position and the cup; and
- (d) a graphic display to display said graphical view of said selected portion of said golf course.

98. (New claim) The portable golf round data system of claim 97 wherein the forces are represented graphically on said display.

99. (New claim) A portable golf round data system comprising:

- (a) a radiolocation receiver to receive at least one external locating signal from which a user's current location on a golf course can be determined;
- (b) data storage in a data collection unit for storing course data relating to locations of one or more golf course features;
- (c) at least one microprocessor in said data collection unit operatively connected to said radiolocation receiver and to said data storage, said microprocessor programmed to:

- 1) determine said user's current location on said golf course from said external locating signal; and
- 2) dynamically generate a graphical view of a selected portion of said golf course based on said user's current location, said dynamically generated view including a selected portion of the course and a visual indication representing the intended path or direction of the golf ball as a result of the next stroke; and

(d) a graphic display to display said graphical view of said selected portion of said golf course.

100. (New Claim) The portable golf round data system of Claim 99 wherein said graphic display is adapted to show the number of the hole currently being played.

101. (New Claim) The portable golf round data system of Claim 99 further including a stroke register to register each stroke taken by a user.

102. (New Claim) The portable golf round data system of Claim 99 further including stroke data storage for storing location data for each stroke taken until said data can be subsequently retrieved for further analysis or long term storage.

103. (New Claim) The system of Claim 102 wherein said location data is transferred from said data collection unit to a data file accessible via the Internet.

104. (New Claim) The system of Claim 99 wherein said graphic display is adapted to show the number of strokes said user has used on the current hole being played.

105. (New Claim) The system of Claim 98 wherein said microprocessor is further adapted to receive and recognize telemetry signals emitted by telemetry equipped golf clubs.

106. (New Claim) The cellular radiotelephone of Claim 98 wherein said display is adapted to show the club the user intends to use for the next stroke.

107. (New claim) A portable golf round data system comprising:

- (a) a radiolocation receiver to receive at least one external locating signal from which a user's current location on a golf course can be determined;
- (b) data storage in a data collection unit for storing course data relating to locations of one or more golf course features;
- (c) at least one microprocessor in said data collection unit operatively connected to said radiolocation receiver and to said data storage, said microprocessor programmed to:
  - 1) determine said user's current location on a green on said golf course from said external locating signal; and
  - 2) dynamically generate a graphical view of a selected portion of said green; and
- (d) a graphic display to display said graphical view of said green and a visual indication of the amount and direction that the golf ball will break on the next putt.

108. (New Claim) A cellular radiotelephone comprising:

- (a) a cellular radio transceiver to communicate with a cellular network;
- (b) a radiolocation receiver for receiving at least one external locating signal from which a user's current location on a golf course can be determined;
- (c) data storage operatively connected to said cellular radio transceiver for storing golf course data relating to at least one golf course feature, wherein at least a portion of said golf course data is received via said cellular network from said cellular radio transceiver;
- (d) a processor to perform calculations based on said user's current location and said stored golf course data to dynamically generate a graphic representation of a selected portion of the golf course including a visual indication representing the intended path or direction of a golf ball due to the next stroke; and
- (e) a display to display said graphic representation.

109. (New Claim) The portable golf round data system of Claim 108 wherein said graphic display is adapted to show the number of the hole currently being played.

110. (New Claim) The portable golf round data system of Claim 108 further including a stroke register to register each stroke taken by a user.

111. (New Claim) The portable golf round data system of Claim 108 further including stroke data storage for storing location data for each stroke taken until said data can be subsequently retrieved for further analysis or long term storage.

112. (New Claim) The system of Claim 111 wherein said location data is transferred from said data collection unit to a data file accessible via the Internet.

113. (New Claim) The system of Claim 108 wherein said graphic display is adapted to show the number of strokes said user has used on the current hole being played.

114. (New Claim) The system of Claim 108 wherein said microprocessor is further adapted to receive and recognize telemetry signals emitted by telemetry equipped golf clubs.

115. (New Claim) The cellular radiotelephone of Claim 108 wherein said display is adapted to show the club the user intends to use for the next stroke.

116. (New Claim) A cellular radiotelephone comprising:

- (a) a cellular radio transceiver to communicate with a cellular network;
- (b) a radiolocation receiver for receiving at least one external locating signal from which a user's current location on a green on a golf course can be determined;
- (c) data storage operatively connected to said cellular radio transceiver for storing golf course data relating to at least one golf course feature, wherein at least a portion of said golf course data is received via said cellular network from said cellular radio transceiver;
- (d) a processor to perform calculations based on said user's current location on said green and said stored golf course data to dynamically generate a

graphic representation of a selected portion of said green and a visual indication representing the forces on the ball; and

- (e) a display to display said graphic representation.

117. (New Claim) A cellular radiotelephone comprising:

- (a) a cellular radio transceiver to communicate with a cellular network;
- (b) a radiolocation receiver for receiving at least one external locating signal from which a user's current location on a green on a golf course can be determined;
- (c) data storage operatively connected to said cellular radio transceiver for storing golf course data relating to at least one golf course feature, wherein at least a portion of said golf course data is received via said cellular network from said cellular radio transceiver;
- (d) a processor to perform calculations based on said user's current location on said green and said stored golf course data to dynamically generate a graphic representation of a selected portion of said green; and
- (e) a display to display said graphic representation and a visual indication of the amount and direction that a golf ball will break on the next putt.